

REMARKS

Claims 1, 2 and 4-11 are pending in this application. By this Amendment, claims 1 and 4-9 are amended, claims 10 and 11 are added, and claim 3 is canceled without prejudice to or disclaimer of the subject matter disclosed therein. Reconsideration of the application is respectfully requested.

The Office Action objects to the title as not being descriptive. The title is amended to overcome the objection as suggested by the Patent Office. Accordingly, withdrawal of the objection to the title is respectfully requested.

The Office Action rejects claim 9 under 35 U.S.C. §101 because the claimed invention is directed to a non-statutory subject matter. Claim 9 is amended to overcome the rejection by inserting the recitation of "an image display program stored on a recordable medium", as suggested by the Patent Office. Accordingly, withdrawal of the rejection of claim 9 under 35 U.S.C. §101 is respectfully requested.

Claims 1-9 are rejected under 35 U.S.C. §103(a) over Greier et al. (U.S. Patent No. 6,801,220) in view of Amagami et al. (U.S. Patent No. 5,402,149). The rejection is respectfully traversed.

In particular, none of the applied references, alone or in combination, disclose or suggest an image display device and associated image display method and image display program stored on a recordable medium that includes a display unit, a resolution-conversion device that makes image data for a plurality of pixels, and a viewing angle range adjustment device that sets grayscale values of each pixel of the resolution-converted image data so that the grayscale values of each pixel differs from an adjacent pixel in a vertical direction or in a horizontal direction of the resolution-converted image data, wherein in a case that a vertical observation direction to a surface of the display unit is a 0 degree observation direction, the viewing angle range adjustment device sets grayscale value of one of the pixel in the adjacent

pixel based on display characteristics of a -30 degrees observation direction and sets grayscale value of the other one of the pixel and the adjacent pixel based on display characteristics of a +30 degrees observation direction, as recited in independent claim 1, and similarly recited in independent claims 10 and 11.

Moreover, none of the applied references, alone or in combination, disclose or suggest an image display device and associated image display method and image display program stored on a recordable medium that includes a display unit, a resolution-conversion device that makes image data for a plurality of pixels, a viewing angle range adjustment device that sets grayscale values of each pixel, and a display device for displaying the resolution-converted image data on the display unit, wherein each pixel has sub pixels corresponding to a plurality of colors, and the viewing angle range adjustment device adjusts a viewing angle range for each color of the plurality of colors by setting the grayscale value of one sub pixel of the sub pixels to a different grayscale value than the other sub pixels after a resolution-conversion, as recited in independent claim 5, and similarly recited in independent claims 8 and 9.

Finally, none of the applied references, alone or in combination, disclose or suggest an image display device that includes a display unit, a resolution-conversion device that makes image data for a plurality of pixels, a viewing angle range adjustment device that sets grayscale values of each pixel, a display device for displaying the resolution-converted image data on the display unit, and an input unit that receives a command to select one of a wide viewing angle range and a narrow viewing angle range, the display device displays the resolution-converted image data adjusted by the viewing angle range adjustment device if the wide viewing angle range mode is selected and displays the resolution-converted image data not adjusted by the viewing angle range adjustment device if the narrow viewing angle range mode is selected, as recited in independent claim 7.

Greier teaches improving the viewing angle characteristics of a liquid crystal display by reducing the number of sub pixels in an image with mid-tone luminous values (Abstract). Moreover, Greier teaches modifying the intensity values in digital form of the sub pixels of the display using dithering techniques that take into consideration the non ideal luminous characteristics of the sub pixels of the panel, thereby improving the displayed image by suppressing or eliminating level reversal and color shift over a wide range of viewing angles (col. 4, lines 13-21). However, Greier only teaches that the user can adjust the degree of the viewing angle characteristics. Thus, Greier fails to disclose or suggest setting grayscale value of one of the pixel and the adjacent pixel based on display characteristics of a -30 degrees observation direction and setting grayscale values of the other one of the pixel and the adjacent pixel based on display characteristics of a +30 degrees observation direction in a case that a vertical observation direction to a surface of the display unit is a 0 degree observation direction, as recited in independent claim 1, and similarly recited in independent claims 10 and 11. Furthermore, Greier fails to disclose or suggest adjusting a viewing angle range for each color of the plurality of colors by setting the grayscale value of one sub pixel of the sub pixels to a different grayscale value than the other sub pixels after a resolution conversion, as recited in independent claim 5, and similarly recited in independent claims 8 and 9. Finally, as discussed above, Greier merely teaches that the user can adjust the viewing angle characteristics but does not disclose or suggest that the display device displays the resolution-converted image data adjusted by the viewing angle range adjustment if the wide viewing angle range mode is selected, or that the display device displays the resolution-converted image data not adjusted by the viewing angle range adjustment device if the narrow viewing angle range mode is selected, as recited in independent claim 7.

Amagami teaches expanding a display data for a low-resolution matrix display apparatus to display data for a high-resolution matrix display apparatus without causing a

reduction in the speed of processing and without requiring clocks of different frequencies (Abstract). However, Amagami fails to cure deficiencies in Greier in disclosing or rendering obvious the above-described features of independent claims 1, 5 and 7-11. Thus, independent claims 1, 5 and 7-11, and their dependent claims, are patentable over a combination of the applied references. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 2 and 4-11 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Amendment Transmittal

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